

Pre-seventeenth Century Bacon: from Piers Plowman to Sir Kenelm Digby

The Honorable Tomas de Courcy (JdL, GdS)

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Abstract

This research attempts to fill a gap in historical food scholarship by examining the methods used prior to the seventeenth century in the curing of bacon. This was accomplished by analyzing 56 cookery books published between the thirteenth and seventeenth centuries, from nine countries, with the majority of them coming from England. The results of this analysis were that pre-seventeenth century bacon was heavily salted without the use of saltpetre and then hung to dry without the use of smoke. The bacon was salted to the point of being shelf stable and could have been stored at or below room temperature without fear of spoiling. It was made from either the loin or the belly of the pig, depending on the preferences of the maker and the intended use of the bacon. Casting a new light on historical food studies which reference bacon, this research shows that the method of bacon making was important and the bacon of the medieval and pre-modern periods was very different from the modern version.

Introduction

Bacon is more than just a staple of English food, it has been a mainstay of cuisine from the earliest English cookery books. The eighteenth and nineteenth centuries were a renaissance of bacon, with an incredible amount of adaptation happening as they built on the culinary innovations of the late seventeenth century. That was followed by major changes in the twentieth century which have led to our modern concept of bacon.

But what was bacon like before the seventeenth and eighteenth centuries? What would the writer of *Forme of Cury* think of when they tell the cook to add bacon to beans? Why does a recipe in *Noble Boke Off Cookry* require the bacon to be soaked: “tak a litill lard of salt bacon well sodene” (Napier, *A Noble Boke off Cookry* 88)? There are frequent references in pre-seventeenth century sources to bacon as a food associated with the poor in England (Moisà 83); while other records show it was also eaten in great quantities by the rich (Woolgar 76), for example in the records of the Earl of Derby (Dobrowolski 293). This demonstrates that bacon was used as a key food for all classes in England throughout the Middle Ages and into the early modern period. But what was it like, and when did it change to the style of bacon spoken of in eighteenth century cookery books?

The bacon of early modern England, while identifiable as a pork product, was a very different ingredient than the one we enjoy today. In general, it was drier than modern bacon, more similar in nature to prosciutto, with many differences in preparation, storage, and use. There has not yet been an academic overview of pre-seventeenth century bacon, and most histories of bacon begin with commercial production in the eighteenth century. There are brief, though competing, references to the creation of pre-modern bacon in Peter Brears’ and Ken Albala’s work, discussed later, but nothing in depth. It is because of this I have endeavoured here to explain the history of bacon and show how it was made and used in pre-seventeenth century England.

Unfortunately, bacon is generally indistinguishable from other types of pork in the archeological record. This means that the written record is a better source for information on bacon (Woolgar 73). Information used in this research comes primarily from cookery books, with some information from medieval literature and personal journals; information from secondary sources that I used focused primarily on household accounts.

Cookery books are collections of recipes, printed or hand-copied, on their own or as part of a larger work. They frequently "contain medical or household recipes in addition to culinary ones" (Kernan 7), though a cookery book, generally, is one that is at least two-thirds cookery (Notaker 2). Although there are cookery books from before the fourteenth century, it's in the fourteenth century that cookery books become a recognizable genre in England (Kernan 9); a genre that originally revolved around royal and noble households. The advent of printing led to a boom in cookery books in England, though not all cookery books were printed. Families would frequently have their recipes compiled into a manuscript book that could be passed down through the family or given as gifts (*ibid.*).

Cookery books served multiple purposes in England from the fourteenth to the seventeenth century. The primary purpose of cookery books was, of course, to guide a cook through making an unfamiliar or only slightly familiar dish as an *aides-mémoires* (Kernan 27) as well as being a method of instruction on new recipes; however, the cookery books also served an aspirational purpose. With the rise of professionals and the expansion of the gentry in the fifteenth century, cookery books were seen as a way to learn the methods of eating practiced by the nobility and to emulate it (83-4). Later in the sixteenth century cookery books stopped being ostensibly aimed at the nobility and began being aimed directly at the gentry and professional classes (118). Following this, in England, the genre came to be aimed at, and for family manuscripts written by, women (9). In fact, by the last quarter of the seventeenth century (14) the entire cookery book industry was "almost exclusively directed to women" (6), something that doesn't seem to be the case in other countries with the exception of Germany.

This research was accomplished by analyzing 56 cookery books from the thirteenth to the seventeenth century and examining their use and treatment of bacon and preserved lard (see Appendix 1). Bacon is mentioned 297 times in 35 of the 56 cookery books I analyzed, from *MS Additional 32085* at the end of the thirteenth century through to *The Accomplisht Cook* in 1685, while lard is referenced 548 times in 46 of the cookery books. This was supplemented by analyzing its use in medieval fiction and writings to provide a fuller understanding of its place and method of preparation.

Consumption of Pork in England

Pork was a staple of the lower (Moisà 83) and middle class in medieval England, often making up a significant portion of the meat they ate (Woolgar 73). This was likely because pigs are easy to raise, and pork is easy to preserve given adequate quantities of salt and the ability to store it properly for several months while it cures. This makes the relative cost of production lower than other meats (Woolgar 73). Unfortunately, as Woolgar points out, “archaeologically the distinction between the use of pork in its fresh and preserved forms is hard to pinpoint” (73); however, in the later Middle Ages, there are written records to help differentiate. The preservation of pork was mainly done through curing, primarily dry salting (Tannahill 175-178) but also through brining (*The good Huswifes Handmaide for the Kitchin* 12), though I haven’t found proof of brining being used for bacon before the seventeenth century. Although the percentage of pork eaten went down over the centuries from its high point during the middle of the Anglo-Saxon time-period, nowhere in Medieval or Renaissance England was it ever below 10% of the meat eaten, and for most of that time it was in the 20%-30% range (Woolgar 75-76). While common people mainly ate pork as their meat, the overall percentages are offset by the upper classes eating a wider variety of meats (76). Based on extant financial documents, pork was most eaten in winter and summer with less eaten in spring (perhaps due to Lent) and autumn (perhaps due to pork taking up to two months to cure after the fall slaughter) (205).

Western European Context

England's eating habits do not exist in a vacuum. In France, until the fourteenth century, beef was the most consumed meat, with mutton and pork vying for second place. (López 67) Pork gradually fell out of favor after the fourteenth century, evidenced by the slow disappearance of bacon and lard from French cookery books over the following century. *Du Fait de Cuisine* (1420) features five references to bacon and 26 to lard, while forty years later *Le Recueil de Riom* never references bacon and has only five references to lard.

In southern and central Spain pork was heavily eaten by the Christian population (López 72), primarily as salted ham. In the sixteenth century cookery book *Libre del Coch*, for example, the primary method of frying is in pork fat rather than oil, and the book includes 51 references to lard or bacon. This may have been as an attempt to be conspicuous about the eating of pork in post-Reconquista Spain, to show that a person was neither Jewish nor Muslim (Goodman). During the Reconquista in Catalonia it seems pork made up about 10% of the consumed meat while southern and central Spain consumed less than a fifth of that (López 72).

Documenting Bacon

The modern concept of bacon is similar to, but distinct from the pre-seventeenth century concept of it. The word today refers to cured and smoked pork belly or loin, but the word was much less specific in the past, often being used *pars pro toto* to refer to both pork in general (Horowitz 57) as well as to cured pork specifically. Due to this my research looked at references to both bacon and lard. In the late thirteenth century, the term used to refer to pork belly was lard or larduns (MS Additional 32085), leading to the term "larding" for wrapping or interlacing meat with fatty pork belly. This definition persisted until the 1650s when the verb "larding" was divorced from the noun "lard". *The English Housewife* (1649) features a recipe with the instructions to "lard it either with mutton-lard or pork-lard but

mutton is the best” (Markham 94), which is the first time a meat other than pork is used to lard something in the 38 earlier and contemporary English cookery books in this research¹. Whether or not the pork belly had been cured isn’t clear, but between written references as early as the twelfth century to salting pork (Iomaierea and Gallaghera 31) in the British Isles and the evidence of salting meat as a pre-classical technology which was in very common use throughout the medieval period (Tannahill 176) it can be assumed that they had the means and inclination to do so. Whether the meat was smoked is uncertain and examined later. By the fourteenth century there is written evidence to lard being preserved (probably by salting). In MS Additional 46919, written sometime before 1337², the cook is instructed to “soþpen in water cold” (Hereford 55) the lard prior to use, something that would not have been necessary with fresh lard. This recipe goes on to instruct the cook to wrap the roast in the soaked lard (Hereford 55) which implies that the lard used is more likely fatty pork belly rather than leaf lard, the fat from around the kidneys and loin of the pig.

From at least the fifteenth century (Liber cure Cocorum 46) until the twentieth century, bacon could be from any part of the pig, without bones and that had been cured (Horowitz 57), as long as it had enough fat on it; and it was often served in slices: “Thre leches of bacun lay þou mot” (Liber cure Cocorum 46). Although the term was also often used *pars pro toto*, a fatty piece of pork with no bones that has been cured would be identified as “bacon” and is very likely to have been what meant by the term especially in the sixteenth century, where there is more information, for example regarding the use of pork on ships, with every sailor receiving one pound of bacon on Mondays as their meat ration (Simancas: April 1588, 21-30). This separation of bacon from ham or gammon seems to be more one of bone and fat content than of location on the pig; also the fat content of bacon makes it more likely to go rancid with poor treatment. Because of the similarities in production and use between lard and bacon

¹ . This is followed in *The Compleat Cook* (1656) where any flesh can now be larded with any other flesh, such as fish (The Compleat Cook 59)

² This work may also be found as part of Hieatt & Butler's *Curye on Inglysch*.

from the thirteenth to sixteenth century, with the exception of leaf lard, the working definition of “cured pork meat from the belly and back region” will be used here.

In 1755, the first recorded recipe for what was to become modern bacon was published in Edinburgh³. The book, *A New and Easy Method of Cookery*, states:

To Make Hams or Bacon

Salt them on a Table, and lay a Weight on them for two or three Days, then to every Ham or Flitch of bacon, take a Pount of white Salt, a Pound of Bay Salt, two Ounces of Salt-Petre, and two of Petersalt, a quarter of a Pound of brown Sugar; mix them all together, and warm them pretty hot; lay your Hams in a Trough, and rub them very well, turn and rub them every day for three Weeks; then hang them up to dry by a slow Fire, Wood, or Saw-dust, is the best to dry them with. (Cleland 42)

Twenty-five years later, a recipe recorded in *The Farmer's Wife: Or The Complete Country Housewife*, printed in London, bears a striking resemblance to the above, with the only change being a significant reduction in the amount of saltpetre (Hogg 29). This type of salt/sugar/saltpetre rub stays the same, with a saltpetre ratio of within a 3%-10% range until the twentieth century; for example, *The American Farmer* in December 1853 gave a recipe at 6% (Hewlitt) and in January 1859 gave one at 9% (Marriott). Even the famous Wiltshire recipe in 1860 used 8.5% saltpetre (Beeton). There are dozens of cure recipes throughout the nineteenth century and they all fall within this general range and are made in essentially the same way. This continued until the switch to the more efficient sodium nitrite in the twentieth century (North American Meat Institute 1). Modern cures use between 0.3% and 0.7% sodium nitrite, and in general the maximum legally allowed in meat in Canada is around 2% (Canadian Food Inspection Agency).

³ Although *The Country Housewife's Family Companion* by William Ellis was published five years earlier, the recipes given are much closer to seventeenth century bacon than nineteenth century bacon in that it omits sugar and prefers the laying in salt method to the salt rub method.

Literary Beginning

Because of the impossibility (Woolgar 73) of determining in the archeological evidence if pork was cured or not, written sources become more important than extant finds, or lack thereof. The first use of the word *bacon* in written English predates our existing cookery books. Our earliest extant use of the word may have been in the *Poem on the Evil Times of Edward II* “for beof ne for bakoun, ne for swich stor of house” (Wright 341) but *Piers Plowman*, in the late fourteenth century, gives us the first reference which can be compared to the working definition: “And 3ut y saye, by my soule! y haue no salt bacon” (*Piers Plowman: The A Version* A. 7.286)(cf *Piers Plowman: The B Version* 6.284). This first literary reference to salt bacon comes prior even to bacon being referenced in *Forme of Cury* in a recipe for beans “ete hem with bacoun” (*Forme of Cury* f12r). There are seven different lines in *Piers Plowman* referencing bacon (Wittig 45) with three in the A version, five in the B version, and all seven reproduced in the C version.

“And as a bondemannes bacoun his berd was yshaue,” (C.6.201)

“And 3ut y say[e], by my soule! y haue no sal[t] bacoun” (C.8.306)

“May no peny ale hem pay ne no pece of bacoun” (C.8.331)

“Where he may rathest haue a repaest or a ronde of bacoun,” (C.9.148)

“Bote they bothe be forswore þat bacon þei tyne.” (C.10.277)

“Brawen and bloed of gees, bacon and coldhoppes.” (C.15.67)

“That noþer bacon ne brawn, blaunmanger ne mortrewes” (C.15.99)

It’s important to see how bacon is described in *Piers Plowman*, being a simple food, yet one that features strongly as an equivalent to currency (*Piers Plowman: The A Version* C.8.331). But just as important are the two descriptions of bacon. The first, and most important to us, is “salt bacoun” (*Piers Plowman: The A Version* C.8.306) showing that bacon is already considered to be a cured meat. This, combined with the earlier reference to it as payment, imply that it is portable for a worker as fresh pork is not, solidifying the theory of the cured aspect of the meat being an early development, and showing that although the entire pig is sometimes referred to as bacon, that use is *pars pro toto* rather than a

change in the understanding of the word. The second reference is to “a ronde of bacoun” (Piers Plowman: The A Version C.9.148) which, although it could mean many things, is likely a reference to bacon made from the loin of the pig, such as back bacon, rather than from the belly.

Looking back about a hundred years previously, there is another reference to the preparation of bacon. In Chaucer’s *Canterbury Tales*, at the beginning of the Nun’s Priest’s tale, is this sentence:

No wyn ne drank she, neither whit ne reed,
 Hir bord was served moost with whit and blak,
 Milk and broun breed, in which she foond no lak,
 Seynd bacoun, and somtyme an ey or tweye,
 For she was as it were a maner deye. (Chaucer 2842-2845)

Seynd bacoun is shown as the most basic of foods. The widow, whose eating habits are being described, and depending on the interpretation are being juxtaposed against the Wife of Bath, the Monk, and perhaps the Prioress, are described as simple fare, but she still has milk, dark bread, bacon, and eggs. It is more the description of how to cook bacon that is important here. Seynd means scorched or slightly burnt, implying that she was so poor that the only way she could cook her bacon was in the simplest method, frying it over an open fire.⁴ As the majority of recipes which call for bacon are using it as an ingredient in a larger dish this provides an opportunity to see a simpler method for preparing it, one that is similar to how it is prepared on its own in the sixteenth century as discussed later.

This is not to imply that bacon was a meal only for the lower classes. In “Food Purchases of a Traveling Nobleman: the Accounts of the Earl of Derby, 1390-1393” Henry Lancaster, the Earl of Derby, is shown to eat quite a lot of bacon. For example, he preferred to have as his morning meal, a slight rarity at the time, wine, bread, and either chicken or bacon (Dobrowolski 293). The eating of bacon so regularly by one of his station gives credence to the idea of bacon as a staple food for everyone.

⁴ For a different take on this, Bruce Dickens (‘Seynd Bacoun,’ Leeds Studies in English and Kindred Languages 4 (1935,) 76-77) offers an alternative translation for “seynd” based on modern use of the term “seym’dup” in Northumberland and the word ‘saindoux’ in French. He writes that it may mean “fatty,” not “smoked” or “singled,” though it is not the common theory.

Although the literary use of the word is important for understanding the context of the use of “bacon”, it is in cookery books that we see the variety of its uses and its method of production.

Use in Cookery Books

After its use in *Piers Plowman*, bacon and lard are referenced in English cookery books at least 152 times in the 29 books I analyzed from between the fourteenth and sixteenth centuries and 291 more times in the nine English cookery books I analyzed from the seventeenth century. Looking at the continent for comparison, bacon and lard are referenced 399 times in the 18 cookery books I analyzed from Denmark, the Netherlands, Spain, Germany, Prussia, Italy, and France from the fourteenth century to the second decade of the seventeenth century.

Although the earliest reference to bacon in an English cookery book is *Forme of Cury*, the word lard appears earlier in an Anglo-Norman cookery book from England *MS. Additional 32085* or “*Vetera Statuta, Registrum Brevium, miscellaneous texts including culinary recipes and a treatise on estate management*” from the end of the thirteenth or beginning of the fourteenth century: “e puys kaunt il serra achaufé lardez le od long larduns” (*MS Additional 32085 7*). Lard comes up again in *MS Douce 257*, a bit before *Forme of Cury* which references it seven times but none of the mentions shed more light on the subject. Bacon comes up in a French cookery book from about 1300 in “*Enseignements qui enseingnent a pareillier toutes manieres de viands*”. It’s actually referenced three times but only once is it the actual bacon that’s important: “For a gravé of small birds -- If you want to make a gravé of small birds, put the birds to cook in a pot all covered with crisped bacon, and add wine and water and pepper and ginger, and keep well covered that steam doesn't escape that all will be cooked.” (Myers, *Enseignements qui enseingnent a apareillier toutes manieres de viandes*)⁵.

⁵ In the original as transcribed by Thomas Gloning: “por gravé de menus oiseaus -- Se vos volez fere gravé de menus oiseaus, metez les oiseaus cuire en un pot tout assec avec charbonnees de lart, e i metez vin e eve e poivre e gingembre, e tenez bien couvert que l'alaine ne s'en isse devant que tout soit cuit.”

Forme of Cury has one mention of bacon and ten of lard. The reference to bacon is:

Take benes & drye hem
 in an ovne & hulle hē
 wel and wyndowe out the
 hulfes & waysche hē clene
 & do hē to seep i god broth
 & ete hem wiþ bacou (Forme of Cury f12r)

Although this doesn't show anything about the look or creation of bacon, it is important as it's the first time that bacon, rather than lard, is mentioned in an English cookery book.

In the nine cookery books from the fourteenth century examined, five English, three French, and one German, there are 176 references to bacon and lard. Of them the French cookery & general household management book *Le Menagier de Paris*, published about the same time as *Forme of Cury*, is the most important early cookery book when it comes to bacon⁶. *Le Menagier* has more than 50 references to bacon, more than every other pre-sixteenth century cookery book I examined combined. *Le Menagier* has four strong references to what bacon looks like and two that help explain the creation of it. First is the comment about what larding is, as previously mentioned. In *Le Menagier* the author says that "there is a difference between sticking and larding, for the first is with cloves and the other with bacon." (Pichon) There are also two descriptions of the bacon itself, "three bacon strips", and "let the strips be small like slices of bacon" (ibid.). Although this doesn't explain if the meat was from the loin or the belly, it does reveal that the slicing of it is not the "rondes" of bacon that are mentioned in *Piers Plowman*, instead the cut being used is either the belly, which would have more fat and so be better for larding, or it's the loin sliced long instead of round, which is probably unlikely.

Le Menagier also has two references to how bacon is cured, one of which gives a description of the colour of the bacon. First, in the description of how to make chitterling sausages, it's mentioned that "when these chitterling sausages are thus done and filled, you take them to be salted with the bacon

⁶ Although *Le Viandier de Taillevent* is from the same period and has over forty recipes calling for lard it doesn't reference bacon at all and doesn't include any descriptions of the lard it calls for.

and on top of the bacon" (ibid.) which shows that the main process for the curing of bacon is the salt and stack method, which continues to be used for several centuries and in which the weight of the meat helps press out liquid from the meat and speeds the curing process. The more important section though comes from a discussion on how to tell the type of bacon that should be purchased.

Note that some hang their pigs in the Easter season and the air yellows them; and it would be better for them to keep them in salt as they do in Picardy, even though the flesh is not so firm, it seems; nevertheless you get better service from bacon which is fair and white than from yellow, because however good the yellow may be, it is too repulsive and causes disgust when viewed (ibid.)

Although a discussion of colour might seem odd, it explains a great deal. From my own experiments with bacon making, when bacon is cured by packing in salt, the colour of the fat at the end of the curing process is white and the flesh, while firm, is not as hard as after it's been dried. Once the bacon has been rinsed and dried for a few weeks, but not smoked, the fat is a yellowish colour, and the meat itself is tough. The best bacon then, according to *Le Menagier*, is that which hasn't been dried after the salting. This would be accomplished by leaving the bacon in the salt until the time of use.

Other fourteenth century cookery books give more information on bacon. Ein Buch von Guter Spise specifically refers to "fatty bacon" (Atlas 5) which would imply bacon from the belly rather than loin as it would have a higher fat content. Also in MS Add 46919, from the first half of the fourteenth century, lard is referred to as being "soppen in water cold" (Hereford 55) before use, which is not something that needs to be done for fresh lard or bacon, only for salted lard and bacon. The soaking or boiling of bacon before use is a theme that continues until after the sixteenth century.

The number of cookery books in existence that date to the fifteenth century represents a significant increase over previous centuries, with the number from England almost triple the number from the previous century. The twenty books, 13 English, two Italian, two French, and one each Prussian, German, and Dutch, examined from this period had a total of 33 references to bacon and 154

references to lard or larding. Throughout this period there are references to "good white lard" (Chiquart 52) which, as previously noted, means that it is either fresh or has been salted and not dried. *Beinecke MS 163* gives four very helpful references asking for "ribbys of bacon," (Myers, Recipes from the Wagstaff Miscellany (Beinecke MS 163) 4, 8), also "clene larde of fat of bacon," (19) "salt lard of porke," (126) and "lard hem with salt" (158) in addition to calling for bacon and lard to be soaked and in one case boiled. In *Noble Boke off Cookry* bacon and lard are referred to as being boiled and soaked (Napier, *A Noble Boke Off Cookry* 88) and "salt bacon" pop up several times. Also, authors begin referencing fresh pork or fresh bacon to show that although the common form of it was salted there was still call for fresh; the Italians are especially particular about whether a recipe called for fresh or salted lard or bacon, such as in *Libro di Cucina* as translated by Louise Smithson and *Due Libre B* as translated by Rebecca Friedman.

The majority of the sixteenth century cookery books I analyzed were from the second half of the century. One important reference to the method of cooking bacon does, however, come up in the beginning of the century in *Donaueschinger Hofbibliothek Cod. 793* where the cook is instructed to "fry it in a pan like fat bacon" (Balestriere 11). This shows both that simply frying bacon was still a common preparation and also as it is called "fat bacon" it's likely a reference to bacon made from the belly rather than the loin. The 1553 German cookery book *Das Kuchbuch* der Sabina Welserin gives more credence to bacon coming only from the belly or the loin when they specify the type of bacon to be used in sausages; "According to how fat the pork is, one can use less or more, take the bacon from the back and not from the belly" (Welserin 23), showing that both loin and belly were used as bacon. In addition, when making sausages with bacon in them the cook is instructed to "hang them in the parlor or in the kitchen, but not in the smoke and not near the oven, so that the bacon does not melt" (ibid.). Between being instructed to use the less fatty cut of bacon in sausages and the instructions to keep the

temperature low while they cure it's clear that pre-seventeenth century charcutiers knew very well about the problems of bacon fat melting or turning rancid during the curing process (Goldwyn).

The three most important cookery books when it comes to bacon all are published in the late sixteenth century, within three years of each other. *The Good Huswifes Handmaide for the Kitchin* in 1594, *The Good Huswifes Jewell* in 1596, and *The Second part of the Good Hus-wiues lewell* in 1597 give five different ways of curing and preserving lard and bacon and one method of cooking. *The Good Huswifes Handmaide for the Kitchin* has four recipes for the "keeping of lard", one of which is clearly specifically for bacon as it refers to not taking the "leane from the fat" (The good Huswifes Handmaide for the Kitchin 11), something that would not be an option with leaf lard.

How to keep Lard after my Lord Ferries way.
 SCald [sic] your hogge, and even as you dresse your Bacon hogge, so dresse this: then lay it in salt, the space of three weekes or a moneth. Then take it vp, and let it hang ther as in maner is no smoke: but when ye thinke it wareth moyst, let it be hanged so lowe that the heate of the fire may come to it: or els put it in an Ouen when the breade is drawne out, and when ye thinke it be wel dried, take it out againe til it ware moyst again, and so ye shal keepe it wel enough three quarters of a yeare, and neuer take the leane from the fat but as ye occupie it. (ibid.)

The other three appear to be methods of keeping leaf lard without it spoiling; they also are essentially brined as well, a method that doesn't begin being used for bacon until John Harris and the "Wiltshire Cure" method in the 1770s (Bule). The recipe in *The Second part of the Good Hus-wiues lewell* appears to be a consolidation of the last two methods of preserving leaf lard listed in *The Good Huswifes Handmaide for the Kitchin*, and so doesn't shed as much light on the topic as the other works. *The Good Huswifes Jewell* gives several references to soaking and boiling bacon before use but also gives this method of preparation:

To frie Bakon.
 Take Bacon and slice it very thinne, and cut awaye the leane, and bruse it with

the backe of your knife, and fry it in sweet
Butter, and serue it. (Dawson f25r)

This recipe, so similar to the method used for cooking in both *Canterbury Tales* and *Donaueschinger Hofbibliothek Cod. 793*, implies that this was the common method for cooking bacon by itself rather than using it as an ingredient in a larger recipe.

Moving forward into the seventeenth century, in 1669 the book *The Closet of Sir Kenelm Digby Knight Opened* was published, and the method it describes for making bacon shows the transition from medieval bacon, which many would argue is closer to salt-pork, to Elizabeth Cleland's bacon.

ABOUT ORDERING BACON FOR GAMBONS, AND TO KEEP

At Franckfort they use the following cautions about the Bacon they salt for Gambons or sides to keep. The best is of male Hogs of two year old, that have been gelt, when they were young. They kill them in the wane of the Moon, from a day or two after the full, till the last quarter. They fetch off their hair with warm-water, not by burning (which melteth the fat, and maketh it apt to grow resty, and after it hath lain in the open air a full day, they salt it with dry Salt, rubbing it in well: Then lay what quantity you will in a tub for seven or eight days (in which time the Salt dissolveth to water); then take it out, and wipe it dry, and hang it in a room, where they keep fire, either on a hearth, or that smoak cometh out of a stove into the room (as most of those rooms do smoak) but hang them not in the Chimney, that the hot smoak striketh upon them; but if you have a very large Chimney, hang them pretty high and aside, that the smoak may not come full upon them. After a while, (when they are dry) take them thence, and hang them from the smoak in a dry warm room. When the weather groweth warm as in May, there will drop from them a kinde of melted oyle grease, and they will heat, and grow resty, if not remedied. Take them down then, and lay them in a cold dry place, with hay all about them, that one may not touch another. Change the Hay every thirty, or twenty, or fifteen days, till September, when the weather groweth cool; then hang them up again in the free air, in a dry Chamber. If you make the shoulders into Gambons, you must have a care to cut away a little piece of flesh within, called in Dutch the Mause; for if that remain in it, the Bacon will grow resty. (Digby 213)

This description of making bacon does three things. First, this is the first reference to making bacon by rubbing the meat with salt as the main step in curing rather than it being buried in salt. The bacon

combined with a salt rub and being laid in a tub – assuming the bacon is layered to create its own brine is much closer to modern bacon – and would end with a much lower salt content than earlier versions. Second, the author is still concerned about the bacon fat going rancid, though slightly less than in previous books. Third, and most important, this is the first bacon which is explicitly smoked, though there are other references to smoking bacon as discussed later. It is with this recipe that bacon moves from the earlier version as has been described for several centuries to a type of bacon that would not be out of place among modern charcuterie. Peter Brears in *Cooking and Dining in Tudor and Early Stuart England* mentions that Digby had visited Frankfurt in the early 1620s (Brears, *Cooking and Dining in Tudor and Early Stuart England* 194), stating that the entry above was likely a depiction of the Continental practice of the time. However, Digby also visited Frankfurt a second time in 1659 (Digby xli) and so his recollection of the Continental practice may be from the middle of the 17th century rather than the beginning. However, Digby seems to be the first person to bring the smoking of bacon as well as the salt rub method to England.

Bacon Production and Storage

The methods used in the creation of bacon are important, as we see that modern bacon is more of an evolution of pre-seventeenth century bacon rather than a different concept all together. The key aspects to pre-seventeenth century bacon are salt, the meat itself, and compression, as well as the method of cooking; while the modern evolution of bacon revolves around smoke and saltpetre.

Salting

The process of curing meat is done through salting it. In addition to pork, salting was used on most other meats and fish and was one of the more common preservation methods. Salting meat allowed for the preservation, storage, and transport of meat without refrigeration. This method was in

common use from pre-classical times and the curing of pork is well known as early as Roman Gaul (Tannahill 176). There are several different ways of salting meats: coating in salt, temporary packing in salt, partial packing in salt, and long-term packing in salt, as well as several different brining methods. For curing bacon the primary method, as discussed earlier, was temporary packing in salt followed by drying; the meat was generally stored in a watertight cask, or *doliis* (Ridgard 29) in Latin, as is supported by *Lieber Cure Cocorum* when it asks the cook to “And do hit in a barel þenne. Þe barel staf ful as I þe kenne” (Liber cure Cocorum 42). This method is faster and more effective than simply drying the meat (James) as the plasmolysis caused by the salt is rapid enough to prevent harmful bacteria from growing and allows the meat to be stored safely.

When salting meat two different kinds of salt were used, bay salt, also called gross salt, and white salt or rock salt. Bay salt is today called sea salt and appears to have been the cheaper variety (Woolgar 182) especially in England. Sea salt was produced all along the coast in Western Europe and it frequently “contained many impurities” (Adamson 26) so it was mainly used for curing or was refined by “redissolving, filtering, and evaporating it a second time” (ibid.). Sea salt was cheap and “sold for half the price of good white salt” (Tannahill 177) while refined rock salt was a better quality and was mined and then dissolved and evaporated to refine it (ibid.). Though rock salt was used in salting meat it was normally mixed with large amounts of the poorer quality bay salt to decrease the cost (Woolgar 182-183). A third kind of salt, brine salt, was considered to be the best quality salt and was from salt springs (Tannahill 178) but there is no evidence of it being used for salting meat.

Types of Pig

Although in the early Middle Ages the majority of pig breeds were “long legged, slender, razor backed, bristly with long snouts and prick ears” (Meyer 15) by the end of the Middle Ages they were much more compact with shorter snouts and were much closer to our modern pig. They were generally

"coloured white, grey, black and sometimes red" (ibid.). In Spain there are many protections around their pig industry, partially to ensure the breeds remain pure, which is one reason why their hams, made from Cerdo Ibérico, are so prized (La Tienda). However, the English pig industry was not as focused on the purity of their breeding stock. There are now only six breeds that were in existence in at least the seventeenth century, likely earlier. They are the Berkshire, Large Black, Large White, Tamworth, Oxford, and the Welsh pigs (British Pig Association). Of these the Berkshire and Tamworth easily meet the descriptions of pre-seventeenth century pigs.

Layering for compression

The layering of meat to increase compression and force out more of the water is shown in several references but most especially from *Le Menagier de Paris* where it is remarked "when these chitterling sausages are thus done and filled, you take them to be salted with the bacon and on top of the bacon" (Pichon). The layering of bacon to increase the compression is still done today, and likely for the same reason: "due to the weight of the rubbed meat cuts, the pressure within the pile is higher at the bottom of the container. This results in faster liquid loss and salt infiltration" (Cured Meat Cuts 173).

Cooking

When cooking bacon cured with the pre-seventeenth century method, the bacon needs to be rehydrated and desalted before use. There are some recipes which specifically call for the bacon to not be desalted but it seems to be for when the bacon is used as the source of salt in the dish. This can be done in several ways and Reay Tannahill discusses the main versions in *Food in History*: "soak in several changes of water" (Tannahill 182), "hang a linen bag of oatmeal in the cauldron to absorb some of the excess" (ibid.), and serving it with side dishes that were "starches and creams" (ibid.). Supporting Tannahill's work are references as early as *MS Add 46919* in the fourteenth century to soaking bacon in

water before use and in the 1460s several references to bacon being boiled prior to use⁷. In 1596 in the cookery book *The Good Huswives Jewell* references boiling the bacon first several times including: “You must first boyle him a quarter of an houre” (Dawson f19v). This makes sense as the cured and dried bacon is very stiff and woody and cannot be manipulated enough to be used for larding. The boiling or soaking of the bacon both draws out salt as well as rehydrating and softening the bacon, allowing it to be used in larding or fried in a pan.

Smoking & Saltpetre

Modern bacon is nearly always smoked and almost always uses a “curing salt” or nitrates. This, however, is a comparatively new phenomenon. As pointed out in *Le Menagier*, bacon which has been dried without smoke has yellowed fat. Smoking bacon gives it a dark brown or black look depending on how smoked it is. Smoking does give the flesh a nice pink colour but the fat on the outside is not the white or yellow colour described in the late fourteenth century. Sausages have been smoked for centuries, but bacon doesn’t seem to have been, likely because heat can melt the fat in bacon, or even cause it to go rancid. Even when using bacon in a sausage in 1553 the cook is instructed to “Hang them [sausages] in the parlor or in the kitchen, but not in the smoke and not near the oven, so that the bacon does not melt” (Welserin 23). And again in 1594 comes the direction “Then take it vp, and let it hang ther as in maner is no smoke” (*The good Huswives Handmaide for the Kitchin* 11).

The first cookery book which refers to smoking bacon isn't until 1669. The first evidence for smoked bacon, however, doesn't come from a cookery book at all. In 1598 John Florio wrote an Italian-English dictionary called *A worlde of Wordes*. In it he describes the following word: “Affumare, to besmoake, to dry in the smoke as baken is, or to blotte as hearings” (Florio 10). Although this could lead to some slight confusion, in that there is one reference to smoking bacon by Florio while the author of

⁷ See further *Beinecke MS 163*, and *Noble Boke off Cookry*

The good Huswives Handmaide for the Kitchin warns against it, Florio was the tutor to Earls and their families, and later to the royal family, and was writing for the wealthiest of the nobility while the author of *Handmaide* was writing not for the nobility proper but for “gentry and husbandmen” (Fumerton 241), as well as yeomen, professionals, merchants and their families.

In order to smoke bacon safely temperature control must be maintained, or the meat will turn and be ruined. This would likely have made the risk of losing a side of bacon too costly an error for the non-wealthy to risk. The wealthy would have much more elaborate kitchens and both have the ability to smoke bacon safely, and to not be financially burdened if the bacon turned rancid. They would thus would know the delicious flavour and improved colour that smoke brings to bacon.

In support of this Peter Brears says in *Cooking and Dining in Medieval England* that “there appears to be no evidence for the use of saltpetre, sugar or smoking in medieval meat preservation, only salt” (Brears, *Cooking and Dining in Medieval England* 148). The opposite viewpoint taken by Ken Albala in *Food in Early Modern Europe*:

Smoke dries food, and in combination with a previous soaking in brine, it prevents bacteria from forming and flavours the food as well. The addition of saltpeter (potassium nitrate) to the brine gives many smoked products their pinkish color. Pork products such as ham, bacon and sausage were the most common foods to be smoked, but fish and cheeses could be to. (Albala 98)

It is likely that he is referring to the end of the early modern period since what he is describing isn't shown in primary documents prior to the end of the seventeenth century.

The references to saltpetre are also interesting as I have found no use of saltpetre in English cookery books before the seventeenth century⁸. Saltpetre is also called potassium nitrate (KNO₃) and it inhibits bacterial growth and, working with salt, creates the required bacteriostatic environment. It also preserves the pink colour of the meat. In modern meat curing sodium nitrite (NaNO₂), or more rarely

⁸ The earliest use is in *Natural Magick* by John Baptist Porta, translated into English in 1658. Porta recommends using it to help create a type of wine slush. This does not appear in the original 1558 Latin edition, but rather in the expanded 1589 edition (page 234-5).

sodium nitrate (NaNO_3) is used instead as it's easy to create and works more effectively than potassium nitrate. In England, prior to the seventeenth century, saltpetre was coveted for its use in gunpowder, especially during the reign of Queen Elizabeth I (The History of Saltpeter - IX)⁹, also saltpetre was used in medicine in the early 1600s (Woodall 25), however, its use in culinary pursuits doesn't appear until the end of the seventeenth century (Cressy 31) and even then it was not in heavy use.

Food safety

Before modern food safety methods were created there were many ways of determining whether or not bacon was safe to eat. In *Epulario, or The Italian Banquet* by Giovanne de Rosselli in 1598 he mentions "If you wil know when a Gammon is good, thrust a knife in the middell of it, and if the knife being pulled out smelleth, it is good: if to the contrary, it is not good" (Rosselli 16). This basic smell test is added to much later; in 1780 *The Farmer's Wife; or Complete Country Housewife* was published, and it explains that "If in ten days or a fortnight any of the pieces do not feel hard to the touch, you must rub some more salt upon them. In three weeks the pork will be fit for use" (Hogg 30). The bacon shouldn't smell "off" at all, especially after cutting into it, and it should be hard to the touch. The flesh being hard to the touch is due to plasmolysis which makes the meat slightly woody until it has been boiled.

Although both of the food safety tests should be successfully met by the bacon making method shown in pre-seventeenth century sources, modern food safety procedures should also be examined. According to the *Canada Food Inspection Agency Manual of Procedures* "Chapter 4 - Meat Processing Controls and Procedures" the raw pork must be kept in an area with a temperature of 10°C or lower in

⁹ This was to such an extent that saltpetre men were empowered by the Crown to do nearly anything they wished in the procurement of it from barns, houses, cellars, etc (Great Britan House of Commons 318); a power which was commented on as much in its abuse as its use (cf. the House of Commons Journal Vol 1: 25 November 1606). During James I's early reign he attempted to sell down the stockpile of saltpetre which Elizabeth had accrued (Cressy 77-78) which might have led to more experimentation with it for other uses.

order to maintain food safety (Canadian Food Inspection Agency 4.2.1.2); however, curing meat must be done at a temperature above 0°C (Sherfield 66). Using the packing in salt method for creating bacon, the primary curing process occurs during the first seven days, and the meat loses over 20% of its moisture content in the first three days of curing (Jin, Zhang and Yu 468). After the first week of curing, the temperature control is not as crucial as the meat's water activity level is significantly lower, and it should be at the shelf stable stage.

The growth of harmful bacteria in bacon can occur at a water activity (a_w) value of 0.94 or above at temperatures above 10°C (Ghoddusi, Sherburn and Aboaba), but once the meat has reached 0.85 a_w the meat becomes shelf stable, no longer requires refrigeration (Canadian Food Inspection Agency 4.16.3), and can be kept at room temperature with adequate protection from the environment. A product which has been packed in salt or saturated in salt is also considered shelf stable (Canadian Food Inspection Agency 4.13.2).

Because of this, bacon can be safely cured and dried in the pre-seventeenth century manner without refrigeration, as long as the meat is kept below 10°C during the primary curing process, particularly the first week. After the full curing time, three to four weeks based on "The good Huswives Handmaide for the Kitchin" (11), the meat can be safely removed from the salt and dried at any temperature below 20°C as it is now shelf stable. It is important during the drying stage to ensure that the meat is not in an anaerobic environment as that will encourage the growth of dangerous bacteria. This is not as much of a concern when cold smoking due to temperature control but is the reason why hot smoking pork was such a dangerous activity in the pre-modern world, combining a temperature above 20°C with an anaerobic environment, this is less of a concern once the bacon has fully dried. Salting lowers "the water activity of the product to inhibit the growth of microorganisms," (Canadian Food Inspection Agency 4.11.1) especially *Clostridium botulinum*, by causing plasmolysis which

"creat[es] unfavorable growth conditions" (Montville and Matthews 342). It, however, does not destroy any microorganisms so the safety of the food prior to curing must be ensured.

Pre-seventeenth century bacon is not made with nitrates or nitrites as discussed previously. If the meat were less salt saturated this would be a problem as even in modern cured bacon with modern food safety precautions if they lack nitrites or nitrates the growth of Clostridium bacteria is significantly faster (Jackson, Sullivan and Kulchaiyawat 410). By using such a high salt concentration medieval charcutiers avoided that particular issue.

Conclusions

Modern bacon curing methods begin their history in 1755 with saltpetre, sugar, and smoke (Cleland 42), medieval and pre-seventeenth century bacon, however, was very different. Unfortunately, little has been written about pre-seventeenth century bacon, and it is my hope that this study offers an analysis which fills that gap. Pork in general, and bacon in specific, were major foods consumed by all classes of people from at least the twelfth to the sixteenth century due to its low cost and ease of preservation. Bacon was likely made from the loin or belly of the pig, much as modern bacon is, but the curing process was very different. Curing was achieved by covering it in large amounts of salt, layering it to increase compression, and drawing out all moisture before hanging it to finish drying. Unlike modern bacon there was no sugar used, and even if there had been the method of rehydrating it prior to cooking would have removed any sugar, and there was no use of saltpetre. There is no evidence for smoke being used as part of the process until the end of the sixteenth century and then only by those who could afford the risk of losing the meat in the process. Pre-seventeenth century bacon would have been shelf stable and could be stored anywhere at or under room temperature.

Having identified the method and manner of bacon making pre-seventeenth century it would be fruitful to experiment with contemporary recipes which use bacon heavily, such as in larding, to see how

the type of bacon used at the time makes the food taste. This research focused on bacon in England with some information coming from France, Germany, and Italy; further research to investigate whether it was manufactured differently outside of England, and also how it fits into the larger world of charcuterie would be beneficial as well.

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